

Amendments to the Claims:

Claims 1-65. (Canceled).

66. (New) A method for prehydrating a water soluble polymer for addition to a brine for use in drilling and completion operations comprising:
providing a precursor brine comprising an aqueous solution of a first salt at a first density,
said first salt comprising cations consisting essentially of cations of one or more multivalent alkaline earth metals; and
mixing said water-soluble polymer with said precursor brine at a first concentration and under first conditions, wherein said first density, said first concentration, and said first conditions are effective to produce a precursor polymer dispersion comprising particles of said water-soluble polymer at a level of prehydration;
wherein, addition of a sufficient quantity of said precursor polymer dispersion to a final brine comprising an aqueous solution of a second salt at a final density produces a final polymer dispersion comprising a second concentration comprising final particles of said water-soluble polymer at a final level of hydration, said second concentration and said final level of hydration being effective at downhole conditions to maintain an effective level of a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof.

67. (New) The method of claim 66 wherein said first concentration is from about 1 to about 2 lb of said water-soluble polymer per gallon of said precursor brine.

68. (New) The method of claim 66 wherein
said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

69. (New) The method of claim 67 wherein

said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

70. (New) The method of claim 66 wherein said one or more multivalent alkaline earth metals are divalent alkaline earth metals.

71. (New) The method of claim 66 wherein said density is from about 9 to about 14 pounds per gallon.

72. (New) The method of claim 66 wherein said density is from about 11 to about 13 pounds per gallon.

73. (New) A method for producing a precursor polymer dispersion for addition to a brine for use in drilling and completion operations comprising:

providing a precursor brine comprising an aqueous solution of a salt at a first density, said salt comprising cations consisting essentially of cations of one or more multivalent alkaline earth metals; and

mixing a first concentration of a water-soluble polymer with said precursor brine under first conditions, wherein said first concentration is from about 0.5 pounds per gallon to about 4 pounds of said water-soluble polymer per gallon of said precursor brine, wherein said first density, said first concentration, and said first conditions are effective to produce a precursor polymer dispersion comprising particles of said water-soluble polymer at a level of prehydration;

wherein, upon addition of a sufficient quantity of said precursor polymer dispersion to a final brine, said precursor polymer dispersion produces a second dispersion comprising a

second concentration of final particles of said water-soluble polymer at a final level of hydration, said second concentration and said final level of hydration being effective at downhole conditions to maintain an effective level of a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof.

74. (New) The method of claim 73 wherein said one or more multivalent alkaline earth metals are divalent alkaline earth metals.

75. (New) The method of claim 73 wherein said first concentration is from about 1 pound to about 2 pounds per gallon.

76. (New) The method of claim 73 wherein said density is from about 9 to about 14 pounds per gallon.

77. (New) The method of claim 73 wherein said density is from about 11 to about 13 pounds per gallon.

78. (New) A method for producing a precursor polymer dispersion for addition to a final brine for use in drilling and completion operations comprising:

providing a precursor brine comprising an aqueous solution comprising a salt selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof, said aqueous solution comprising said salt at a first density of from about 9 to about 14 pounds per gallon; and

mixing from about 0.5 to about 4 pounds per gallon of a water-soluble polymer with said precursor brine under first conditions sufficient to produce a precursor polymer dispersion comprising a first concentration of particles of said water-soluble polymer

at a level of prehydration;
wherein, upon addition of a sufficient quantity of said precursor polymer dispersion to a final brine, said precursor polymer dispersion produces a second concentration of final particles of said water-soluble polymer at a final level of hydration, said second concentration and said final level of hydration being effective at downhole conditions to maintain an effective level of a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof.

79. (New) The method of claim 78 wherein said density is from about 11 to about 13 pounds per gallon.

80. (New) A method for treating a high density brine for use in drilling and completion operations comprising:

providing a precursor brine comprising an aqueous solution comprising a salt consisting essentially of cations of one or more multivalent alkaline earth metals, said aqueous solution comprising said salt at a first density of from about 9 to about 14 pounds per gallon;

mixing about 1 to about 2 pounds per gallon of a water-soluble polymer with said precursor brine under first conditions sufficient to produce a precursor polymer dispersion comprising a first concentration of particles of said water-soluble polymer at a level of prehydration;

wherein, upon addition of a sufficient quantity of said precursor polymer dispersion to a final brine, said precursor polymer dispersion produces a second concentration of final particles of said water-soluble polymer at a final level of hydration, said second

concentration and said final level of hydration being effective at downhole conditions to maintain an effective level of a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof.

81. (New) The method of claim 80 wherein

said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

82. (New) The method of claim 80 wherein said one or more multivalent alkaline earth metals are divalent alkaline earth metals.

83. (New) The method of claim 80 wherein said density is from about 11 to about 13 pounds per gallon.

84. (New) A method for treating a high density brine for use in drilling and completion operations comprising:

providing a precursor brine having a first salt content;
mixing a water-soluble polymer with said precursor brine at a sufficient concentration and under conditions sufficient to produce a precursor polymer dispersion effective at a sufficient concentration in a final brine having a second salt content to improve a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof; and
mixing said sufficient concentration of said precursor polymer dispersion with said final brine.

85. (New) The method of claim 84 wherein

said salt is selected from the group consisting of calcium chloride, calcium bromide, and

combinations thereof.

86. (New) The method of claim 84 wherein

said precursor brine comprises a salt selected from the group consisting of calcium

chloride, calcium bromide, and combinations thereof; and

said first salt content comprises a density of between about 9-14 pounds per gallon.

87. (New) A precursor polymer dispersion comprising:

an aqueous solution of a salt at a first density, said salt comprising cations consisting

essentially of cations of one or more multivalent alkaline earth metals; and

a first concentration of particles of a water-soluble polymer at a level of prehydration;

wherein, addition of a sufficient quantity of said precursor polymer dispersion to a final

brine comprising an aqueous solution of a second salt at a final density produces a

final polymer dispersion comprising a second concentration comprising final

particles of said water-soluble polymer at a final level of hydration, said second

concentration and said final level of hydration being effective at downhole

conditions to maintain an effective level of a property of said final brine selected

from the group consisting of rheology, fluid loss control, and a combination

thereof.

88. (New) The dispersion of claim 87 wherein said first concentration is from about 0.5

to about 4 pounds per gallon.

89. (New) The dispersion of claim 87 wherein said first concentration is from about 1 to

about 2 pounds per gallon.

90. (New) The dispersion of claim 87 wherein said density is in the range of from about

9 to about 14 pounds per gallon.

91. (New) The dispersion of claim 87 wherein said density is from about 11 to about 13 pounds per gallon.

92. (New) The dispersion of claim 87 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

93. (New) The dispersion of claim 88 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

94. (New) The dispersion of claim 89 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

95. (New) The dispersion of claim 90 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

96. (New) The dispersion of claim 91 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

97. (New) The dispersion of claim 87 wherein said one or more multivalent alkaline earth metals are divalent alkaline earth metals.

98. (New) A method for producing a brine for use in drilling and completion operations comprising:

providing a precursor brine comprising an aqueous solution of a first salt at a first density, said first salt comprising cations consisting essentially of cations of one or more multivalent alkaline earth metals; and

mixing a water-soluble polymer with said precursor brine at a first concentration and under first conditions, wherein said first density, said first concentration, and said first

conditions are effective to produce a precursor polymer dispersion comprising particles of said water-soluble polymer at a level of prehydration; wherein, addition of a sufficient quantity of said precursor polymer dispersion to a final brine comprising an aqueous solution of a second salt at a final density produces a final polymer dispersion comprising a second concentration comprising final particles of said water-soluble polymer at a final level of hydration, said second concentration and said final level of hydration being effective at downhole conditions to maintain an effective level of a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof; and mixing said sufficient quantity of said precursor polymer dispersion with said final brine.

99. (New) The method of claim 98 wherein said first concentration is from about 0.5 pounds to about 4 pounds per gallon.

100. (New) The method of claim 99 wherein said first concentration is from about 1 pound to about 2 pounds per gallon.

101. (New) The method of claim 98 wherein said first density is from about 9 to about 14 pounds per gallon.

102. (New) The method of claim 99 wherein said first density is from about 9 to about 14 pounds per gallon.

103. (New) The method of claim 100 wherein said first density is from about 9 to about 14 pounds per gallon.

104. (New) The method of claim 98 wherein said first density is from about 11 to about 13 pounds per gallon.

105. (New) The method of claim 99 wherein said first density is from about 11 to about 13 pounds per gallon.

106. (New) The method of claim 100 wherein said first density is from about 11 to about 13 pounds per gallon.

107. (New) The method of claim 98 wherein said one or more multivalent alkaline earth metals are divalent alkaline earth metals.

108. (New) The method of claim 98 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

109. (New) The method of claim 99 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

110. (New) The method of claim 100 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

111. (New) The method of claim 102 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

112. (New) The method of claim 105 wherein said salt is selected from the group consisting of calcium chloride, calcium bromide, and combinations thereof.

113. (New) A precursor polymer dispersion comprising:

a precursor brine comprising an aqueous solution of a first salt at first density, said first salt comprising cations consisting essentially of cations of one or more multivalent alkaline earth metals;

a precursor polymer dispersion in said precursor brine comprising a first concentration of particles of a water-soluble polymer at a level of prehydration;

wherein, mixing of a sufficient quantity of said precursor polymer dispersion with a final brine comprising an aqueous solution of a second salt at a final density produces a second concentration of final particles of said water-soluble polymer at a final level of hydration, said second concentration and said final level of hydration being effective at downhole conditions to maintain an effective level of a property of said final brine selected from the group consisting of rheology, fluid loss control, and a combination thereof.

114. (New) The precursor polymer dispersion of claim 113 wherein said one or more multivalent alkaline earth metals are divalent alkaline earth metals.